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ABSTRACT

This conference was held to alert physicians worldwide of the mortal peril of nuclear war to public health, with the hope that they will help educate their communities about the effects of nuclear war. Summary papers prepared during the conference include: medical consequences of nuclear war with special reference to Europe--immediate problems for medical services, medical problems for post-attack situation (days 4-60), long-term problems of survival; unquantified effects on the biosphere; arms race and implications for world health; medical "planning" related to nuclear war; role and effectiveness of civil defense in nuclear war; psychological problems of human fallibility in military-political organizations; psychological mechanisms of denial and stereotyping of adversaries: their role in acceptance of nuclear weapons; role of physicians and their national organizations in preventing nuclear war; role of International Physicians for Prevention of Nuclear War; and medical student proposal to the conference. In addition, public appeals to prevent nuclear war are made to Ronald Reagan, Leonid Brezhnev, delegates to the 25th session of the World Health Assembly, and to United Nations Second Special Session on Disarmament. (JN)

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# Summary Proceedings of the Second Congress of International Physicians for the Prevention of Nuclear War

Cambridge, England
April, 1982

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## Dear Colleagues:

The multiplying stockpiles of nuclear weapons of ever increasing destructiveness threaten mankind with an unimaginable catastrophe. The peoples of the world are being held hostage by the accelerating arms race. A war without winners endangers not only human survival but the fragile ecology of the planet.

Since our First Congress in Airlie, Virginia, in March 1981, public apprehension about the danger of nuclear war has been increasing, as witnessed by a number of opinion polls in the United States, Great Britain and elsewhere. At the same time several other professional groups have voiced their strong opposition to the continued escalation of the existing nuclear arsenals and to the possible spread of these weapons to other countries. The conclusions reached at the First Congress, which received wide publicity in the USA and the USSR, and to a lesser extent in Europe, may have contributed to this awareness.

At this Second Congress of International Physicians for the Prevention of Nuclear War, 196 physicians, other experts and observers from 31 countries took part in discussions lasting four days. The plenary session on the first day was attended by some 500 persons. The main theme of this Congress was to consider from the point of view of physicians the consequences of nuclear war in Europe. For it is on this continent that opposing forces of East and West confront one another with nuclear weapons already in position and the threat that many more may soon be deployed. The participants, who included physicians and medical scientists from most of the countries of Europe on both sides of the East-West border, reached unanimous conclusions about the threat to civilisation in Europe, and indeed to civilised life on this planet, which is posed by nuclear war.

We gathered at Cambridge because we do not accept the inevitability of nuclear conflict. We do not believe that differences between political systems can be resolved, or indeed that any social, political or ideological objectives can be achieved by the use of nuclear weapons. We share the hope and belief that human beings can control what they have created. We reject the utilisation of technology for nuclear weapons rather than for improving the quality of life.

Our aim is to alert physicians throughout the world to this major peril to the public health. Our hope is that physicians will help to educate their communities, for only an aroused and informed public opinion can change the course of events.

Jack Fielding, M.D.
Chairman, Cambridge Conference Organising Committee

Bernard Lown, M.D.
President, International Physicians for the Prevention of Nuclear War



## Preamble

Nuclear War would be the ultimate human and environmental disaster.

The immediate and long-term destruction of human life and health would be on an unprecedented scale, threatening the very survival of civilisation.

The threat of its occurrence is at a dangerous level and is steadily increasing.

Even in the absence of nuclear war, invaluable and limited resources are being diverted unproductively to the nuclear arms race, leaving essential human, social, medical, and economic needs unmet.

For these reasons, physicians in all countries must work toward the prevention of nuclear war and for the elimination of all nuclear weapons. If this can be achieved the way will be open to reduction of other weapons.

Physicians can play a particularly effective role because they:

1. are dedicated to the prevention of illness, care of the sick and protection of human life;
2. have special knowledge of the problems of medical response in nuclear war;
3. can work together with their colleagues without regard to national boundaries;
4. are educators who have the opportunity to inform themselves, their colleagues in the health professions, and the general public.

The following statements were developed and agreed to by the 196 participants at the Second Congress of International Physicians for the Prevention of Nuclear War, meeting in Cambridge, England April 3-6, 1982.

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*Complete papers available from International Physicians for the Prevention of Nuclear War, Inc. office in Boston.

## An Appeal to the President of the United States of America, Ronald Reagan, and to the Chairman of the Presidium of the U.S.S.R. Supreme Soviet, Leonid Brezhnev

The growing threat of thermonuclear war and the continued development and proliferation of nuclear weapons have compelled us as physicians to examine in detail the consequences such a war would have for the people of our nations and of the world, whose health and survival are our professional commitment.

During the past several days, physicians and scientists from 31 countries have gathered to consider relevant data on the immediate and long-term effects of a nuclear conflict. We were unanimous in concluding that:

1. Nuclear war would be a catastrophe for any country and any people against whom those weapons were used. In the nations directly attacked, tens to hundreds of millions of people would be killed instantly. Millions of those residing in nations not directly attacked would also perish. There is no possibility of an effective medical response in the ensuing chaos. From the medical standpoint alone, the terms "limited" and "winning" have no meaning in the context of nuclear war.
2. Among those who might survive the initial effects of blast, fire, and radiation, many would face the prospect of prolonged agony and slow death. Untold numbers would succumb to injuries for which no adequate medical treatment could be provided. Widespread starvation, epidemics, and psychological stress would be inevitable.

   Radioactive contamination would spread to vast areas and would pollute the biosphere. The natural protective ozone layer around the earth might be damaged, with unpredictable consequences for all forms of life and for the very survival of the human species. At the very least, the social, cultural, environmental and medical damage in the aftermath of a nuclear war would persist for generations.
3. Nuclear war in Europe would destroy at a stroke its civilisation and the achievements of thousands of years of human effort.
4. Since physicians would have no remedy for the foreseeable medical consequences of a nuclear war, the only effective action is prevention.

Mounting military expenditures and the intensification of the arms race heighten tension. Each new crisis worsens the threat of nuclear war. No matter how difficult the international problems facing the world today, there is no acceptable alternative to their resolution through serious and honest negotiations based upon realistic assessments and mutual respect, with account being taken of the security of all states. It is within your power to ensure that the removal of the threat of nuclear war be given the highest priority both in international negotiations and in decisions made at the national level. The imperative of our time is to rule out the very idea of the use of nuclear weapons, in any form or on any scale. Ultimately, nuclear weapons must be destroyed before they destroy humanity.

The growth in sheer numbers of nuclear weapons and the increasing complexity and sophistication of delivery systems increase the possibility that a nuclear conflict may be triggered by tragic accident.

Physicians are aware from their daily work that technologic systems are liable to malfunction and that human performance may fail because of mental derangement or even simple error. Whereas such failures in medicine may jeopardise a single life, the malfunctioning of military systems may now endanger the existence of humanity.

The arms race is killing people now by diverting scarce resources from urgent health needs. We therefore urge that measures be taken to reduce military budgets and to channel part of the funds to improve living standards and to relieve the condition of millions of people who suffer from lack of food and housing, from poor sanitation, and from widespread but preventable disease.

We believe that action must be taken now to prevent nuclear war and to relieve these consequences of the arms race. We urge that, as a first step, the nuclear powers cease all production, testing, and deployment of nuclear weapons and their delivery systems. This should be accompanied by mutually acceptable methods of verification. We further urge that all nuclear powers unequivocably renounce the use of such weapons, and agree to prevent their introduction into any conflict. We advocate effective bilateral and multilateral negotiations on the limitation, reduction, and ultimate elimination of nuclear weapons.

We are aware that negotiations have been in progress for many years with essentially no apparent effect on the arms race. While we welcome any initiative by either side to reduce its stock of nuclear weapons, we recognise that they are likely to be eliminated only by negotiation. We must again urge that such negotiations be pursued seriously and continuously until they succeed.

We are ready to assist the process of negotiation on nuclear arms limitation and reduction in any way you consider beneficial. We will continue our educational efforts about the medical effects of nuclear weapons and nuclear war in order to increase the consciousness of the threat of nuclear arms and the commitment of each country to their elimination. As examples of these educational efforts, we are enclosing documents drafted at our Second Congress.

In a more direct manner, it may be useful for an

international group of physicians to make presentations, if you will permit us to do so, to U.S.–U.S.S.R. arms control negotiations sessions. It is our hope that a scientific description of the medical consequences of nuclear war would sharpen the focus on this dangerous threat and thus contribute to the process of reaching an agreement.

As leaders of the two most powerful nations, you can render immeasurable service to generations living and to those yet unborn by ending the growth of nuclear arsenals and the current drift towards confrontation and nuclear catastrophe. Only the reversal of the nuclear arms race can ensure the security of the planet as a whole.

We are aware of the enormous responsibility you carry. We offer our unwavering support to your efforts to prevent nuclear war.

Respectfully yours,

Participants in the Second Congress of
International Physicians for the
Prevention of Nuclear War

## An Appeal to the Physicians of Europe

We address this message to you on the occasion of the Second Congress of International Physicians for the Prevention of Nuclear War. This year we have participated in thorough and open discussions of the available medical data on the consequences of nuclear war, with particular emphasis on the effects on the countries of Europe.

We are unanimous in our conclusion that nuclear war would result in an unprecedented catastrophe involving the destruction of European civilisation. On a global scale, its vast immediate and long-term effects would be dangerous even for the countries and peoples not directly attacked, and would perniciously affect succeeding generations by polluting the entire biosphere. Striking everyone and everything, the nuclear storm would spare neither hospitals nor medical personnel. Those of us responsible for health protection and medical care would be unable to provide any effective medical assistance.

Today, we must express our profound concern over the continued stockpiling of huge amounts of ever more sophisticated weapons of mass destruction. The extraordinary number of nuclear missiles already deployed, or scheduled for deployment, in the countries of Europe gives rise to special alarm. The danger of nuclear war beginning in Europe is increased by the suggestion that a "limited" nuclear war is possible, let alone acceptable. As physicians we assert again that the medical consequences of nuclear war cannot be considered "limited". All-out nuclear war would bring mortal danger not only to the survival of the people of Europe, but even to the survival of the human species.

We are profoundly convinced that an end must be put to the build-up of nuclear arms on the European continent, the scene of so many past wars. Nuclear weapons must be destroyed before they destroy humanity. The mere thought of using them in any circumstances, in any form and on any scale, is intolerable.

We ask you to add your voice to those of the growing number of physicians struggling against what once appeared to be overwhelming odds. Progress over the past year has exceeded the hopes of the First Congress. The conclusions of that Congress were communicated to many millions of individuals and have contributed to the growing world-wide awareness of the dangers of the nuclear arms race. Within organised medicine, a new commitment has appeared to work for the prevention of nuclear war. The World Health Organisation and the World Medical Association have passed resolutions supporting medical involvement in the prevention of nuclear war. In May of 1981 the World Health Assembly adopted a resolution stating that thermonuclear conflict "in any form and

on any scale will inevitably lead to irreversible destruction of the environment and the death of hundreds of millions of people, and also to grave consequences for the life and health of the population of all countries of the world without exception and of future generations . . . " National medical organisations such as the Institutes of Medicine of the United States, the Academy of Medical Sciences of the Soviet Union, the British Medical Association and the American Medical Association have turned their attention to the medical consequences of nuclear war.

In many countries special organisations of physicians have been formed to work for the prevention of nuclear war. The major public activity of these organisations has been to describe in detail the medical consequences of the use of nuclear weapons. These presentations have helped overcome the failure of imagination and the denial about both the consequences and the likelihood of nuclear war which have permitted the nuclear arms race to continue.

We call on you to join us in efforts to avert the greatest danger which the world has ever faced. Your help is needed in this endeavour.

We ask you to:

1. Join the medical organisation against nuclear war in your own country, or form such an organisation if it does not exist; and assist and support the work of international organisations contributing to the prevention of nuclear war.
2. Inform yourselves about the nuclear arms race and transmit this information to your colleagues.
3. Institute courses on nuclear war in your medical schools.
4. Present the facts about nuclear war to governmental leaders and to the public through personal discussion and explanatory campaigns in all mass media.
5. Prepare articles about the medical consequences of nuclear war for specialized magazines and medical journals and make the problem of prevention of nuclear war a subject of special discussion in medical societies, at symposia and at conferences.
6. Preserve the tradition of open and unfettered exchange between physicians and scientists of many countries as a step towards creating the mutual trust and understanding which may facilitate co-operative international efforts toward nuclear disarmament.

Human beings and nuclear weapons cannot coexist indefinitely.

Respectfully submitted,

Participants in the Second Congress of
International Physicians for the
Prevention of Nuclear War



## Statement by International Physicians for the Prevention of Nuclear War to Delegates to the United Nations Second Special Session on Disarmament

The growing threat of thermonuclear war and the continued development and proliferation of nuclear weapons have compelled us as physicians to examine in detail the consequences such a war would have for the people of our nations and of the world, whose health and survival are our professional commitment.

During the past several days, physicians and scientists from 31 countries have gathered to consider relevant data on the immediate and long-term effects of a nuclear conflict. We were unanimous in concluding that:

1. Nuclear war would be a catastrophe for any country and any people against whom those weapons were used. In the nations directly attacked, tens to hundreds of millions of people would be killed instantly. Millions of those residing in nations not directly attacked would also perish. There is no possibility of an effective medical response in the ensuing chaos. From the medical standpoint alone, the terms "limited" and "winning" have no meaning in the context of nuclear war.
2. Among those who might survive the initial effects of blast, fire, and radiation, many would face the prospect of prolonged agony and slow death. Untold numbers would succumb to injuries for which no adequate medical treatment could be provided. Widespread starvation, epidemics, and psychological stress would be inevitable.

   Radioactive contamination would spread to vast areas and would pollute the biosphere. The natural protective ozone layer around the earth might be damaged, with unpredictable consequences for all forms of life and for the very survival of the human species. At the very least, the social, cultural, environmental and medical damage in the aftermath of a nuclear war would persist for generations.
3. Nuclear war in Europe would destroy at a stroke its civilisation and the achievements of thousands of years of human effort.
4. Since physicians would have no remedy for the foreseeable medical consequences of a nuclear war, the only effective action is prevention.

Mounting military expenditures and the intensification of the arms race heighten tension. Each new crisis worsens the threat of nuclear war. No matter how difficult the international problems facing the world today, there is no acceptable alternative to their resolution through serious and honest negotiations based upon realistic assessments and mutual respect, with account being taken of the security of

all states. The imperative of our time is to rule out the very idea of the use of nuclear weapons, in any form or on any scale. Ultimately, nuclear weapons must be destroyed before they destroy humanity.

The growth in sheer numbers of nuclear weapons and the increasing complexity and sophistication of delivery systems increase the possibility that a nuclear conflict may be triggered by tragic accident.

Physicians are aware from their daily work that technological systems are liable to malfunction and that human performance may fail because of mental derangement or even simple error. Whereas such failures in medicine may jeopardise a single life, the malfunctioning of military systems may now endanger the existence of humanity.

The arms race is killing people now by diverting scarce resources from urgent human needs. We therefore urge that measures be taken to reduce military budgets and to channel part of the funds thus released to improve living standards and to relieve the condition of millions of people who suffer from lack of food and housing, from poor sanitation, and from widespread but preventable disease.

We believe that action must be taken now to prevent nuclear war and to relieve these consequences of the arms race. We urge that as a first step, the nuclear powers cease all production, testing, and deployment of nuclear weapons and their delivery systems. This should be accompanied by mutually acceptable methods of verification. We advocate effective bilateral and multilateral negotiations on the limitation, reduction, and ultimate elimination of nuclear weapons.

We are aware that negotiations have been in progress for many years with no apparent effect on the arms race. While we welcome any initiative by either side to reduce its stock of nuclear weapons, we recognise that they are likely to be eliminated only by negotiation. We must again urge that such negotiations be pursued seriously and continuously until they succeed.

As physicians commited to the preservation of health and life for all, we are eager to share our medical and scientific studies in every way that might help to reduce the threat of nuclear war. Should the United Nations Second Special Session on Disarmament find it useful, representatives of IPPNW would be pleased to present data on the medical consequences of the arms race and nuclear war.

Only the reversal of the arms race can ensure the security of the planet as a whole.

We are aware of the enormous responsibility you carry. We offer our unwavering support to your efforts to prevent nuclear war.

Respectfully yours,

Participants in the Second Congress of
International Physicians for the
Prevention of Nuclear War

## Appeal to the Delegates to the XXXV Session of the World Health Assembly

We physicians and scientists from 31 countries, joined in the "International Physicians for the Prevention of Nuclear War", address this message to all the delegates from the member states of the World Health Organization participating in the XXXV World Health Assembly. Our aim is to draw attention to what we see as the most important and ominous problem of our time – the risk of nuclear war and the disastrous consequences which will ensue.

For the past 36 years, the nuclear arms race has been an issue of great political and social importance. More recently, the medical consequences of nuclear war have been brought to greater public consciousness. We write to the World Health Organization in the belief that we physicians share with the WHO a realisation that scarce resources are being diverted from health provision and maintenance into military spending and the nuclear arms race.

Article X of the WHO–Unicef sponsored conference on primary health care in 1978 stated the matter clearly:

"An acceptable level of health for all the people of the world by the year 2000 can be attained through a fuller and better use of the world's resources, a considerable part of which is now being spent on armaments and military conflicts."

The members of International Physicians for the Prevention of Nuclear War have stressed in several recent publications the diversion of enormous funds from the world's health care needs into the arms race. Among the facts are these:

1. World military spending in real terms, corrected for inflation, has increased four-fold since World War II. In the 1970s, world military expenditures exceeded $4 trillion, which is greater than the total goods and services created by mankind in one year. In 1980 these expenditures amounted to over $500 billion, or $1.4 billion daily.
2. Slightly more than a decade ago, smallpox was endemic in 33 countries with a population of 1.2 billion people, with 10 to 15 million cases and a loss of two million lives annually. The World Health Organization campaign for smallpox eradication was successfully completed in a decade. The last case of naturally occurring smallpox was diagnosed in Somalia in 1977. This achievement cost $300 million, or approximately the same as five hours of the arms race.
3. The World Health Organization has designated the 1980s as the "International Drinking Water Supply and Sanitation Decade". By 1990, it has been estimated, over 2000 million people in developing countries could be provided with clean water and

sanitation, which they now lack, at a cost of $300,000 million. This monumental feat would therefore cost less than seven months of the arms race.

While it is undoubtedly true that military expenditures would not be converted dollar for dollar into humanitarian acts, the gross disparity between what is being spent to prepare for war and what is being done to ensure the health of all, especially the poverty and disease stricken, is the central defect in our stewardship of this planet and the failing of our time.

In this realisation, physicians concerned about the medical consequences of nuclear war are joined with the World Health Organization in spirit and in a determination to act.

As physicians, we have a special opportunity to bring these facts to the attention of the world in an effort to make all understand that the nuclear arms race is destroying health and life through diversion of vital human and material resources.

We have also emphasised the impossibility of an adequate medical response to the catastrophe which would result from a modern nuclear war. Further, physicians have recently been focusing attention upon the concept of survivability itself. Because of the deleterious effects of massive radiation exposure upon resistance and nutrition, it has been estimated that 35% of the immediate survivors of a nuclear war would die from infectious diseases in the first year after an attack. Indeed, it has been stated that "a nuclear attack will create almost ideal conditions for breaching the thin protective wall against plague," and plague is just one example of the "forgotten" diseases that would become scourges once again. In turn, the "survivors" of these epidemics would face increased long-term risks of cancer and genetic damage.

The world has repeatedly heard the voice of WHO warning aginst the danger to humankind posed by nuclear radiation and speaking in support of resolutions and decisions of the United Nations General Assembly with regard to stopping the arms race in favour of disarmament. It was the XXXIV World Health Assembly that raised the issue of the role of physicians and other health professionals in preserving and strengthening peace as the principal prerequisite for the protection of world health. We agree with WHO's conclusion that "a thermonuclear conflict, in any form and on any scale, will inevitably lead to irreversible destruction of the environment and the death of hundreds of millions of people, and also to grave consequences for the life and health of the population of all countries of the world."

The Second Congress of International Physicians for the Prevention of Nuclear War was held in Cambridge, England from April 3 to April 6, 1982. The focus of that conference was on the medical consequences of nuclear war in Europe. Representatives from the medical communities of 31 countries were present. In addition, representatives from the World Health Organization participated in the Congress.

We transmit herewith the documents and materials of the First and Second Congresses of the International Physicians for the Prevention of Nuclear War. We give the World Health Organization our full and unqualified support in efforts aimed at studying and making known all aspects of the danger of nuclear war. As the studies of the Second Congress make clear, the situation on the European continent gives rise to special alarm because of the extraordinary number of nuclear missiles already deployed, or scheduled for deployment, in its countries. The danger of nuclear war breaking out in Europe is increased by the suggestion that a "limited" nuclear war is possible, let alone acceptable. As physicians we must assert again that the medical consequences of nuclear war cannot be regarded as "limited." The European continent is now an arena in which there is enormous danger of nuclear conflict, and nowhere is it more important that the nuclear arms race should stop.

The IPPNW would like to suggest that physicians from our organisation participate actively in the next World Health Assembly. In view of the extreme urgency of the subject, we would specifically suggest that at that Assembly, a half day of the Technical Discussions be set aside for a review of the medical consequences of nuclear war. Among our membership there are many experts in the various aspects of this field who would be pleased to contribute to such a session either as speakers or as sources of information and background for WHO research into the medical consequences of nuclear war.

The International Physicians for the Prevention of Nuclear War look forward to an increasingly close working relationship with the World Health Organisation, united as we are in the belief that freedom from the threat of nuclear war is a prerequisite for satisfying the world's health needs.

Respectfully submitted,

Participants in the Second Congress of
International Physicians for the
Prevention of Nuclear War

## The Medical Consequences of Nuclear War with Special Reference to Europe: Immediate Problems for Medical Services

There can be no effective medical preparation for nuclear war since the extent of the devastation would overwhelm the medical services. The only effective medical response to the threat of nuclear war is its prevention.

Nevertheless, even a massive nuclear attack would leave some European countries with areas unaffected by explosive damage (though fallout could extend to every part of the continent). The medical and health personnel in the undamaged areas, and those surviving in the damaged areas, would have an ethical obligation to do what they could to care for the injured.

In realistic terms these medical efforts could achieve very little. The first priority for the very few survivors, medical and non-medical, would have to be protection against fallout.

Medical survivors in the few undamaged areas on the fringes of attack zones would have to stay under cover for many days if they were to avoid severe radiation injury. They could treat only those few casualties able to make their own way from the areas of greater damage. Even so, the numbers of such cases would overwhelm any surviving medical services. With inevitable shortages of drugs and dressings and the destruction of main services for water and electricity, treatment could only be rudimentary.

Drugs would soon be exhausted for the relief of pain in casualties with severe or inevitably fatal burns and multiple injuries. Doctors could not formulate any reasonable policy for helping to ease the pain of death for the patients in this situation.

## The Medical Consequences of Nuclear War with Special Reference to Europe: Medical Problems in the Post-Attack Situation (Days 4-60)

Early casualties after a European exchange of 1000 1 megaton weapons, which is still only a fraction of the total nuclear weapons available, have been calculated as approximately 170 million dead and 150 million injured out of a total population of 670 million.

Effective triage which requires highly trained personnel and availability of transport for treatment would be virtually impossible. We calculate that there would be approximately one physician left physically uninjured to 1000 seriously injured patients after the 1000 1-megaton nuclear attack in Europe already discussed. Those medical, nursing and paramedical staff who survived would be unable to work for several weeks because of fallout radiation and the general disruption of facilities. Most central hospitals would be destroyed and those left would be unable to function with the loss of essential services. Similarly, most stores of drugs and blood transfusion centres would be destroyed. Psychological trauma from the horror of scenes witnessed and the irreversible breakdown of the community would affect the survivors and seriously impair the capacity of surviving medical staff to help the injured.

We conclude that there could be no effective medical response in the event of a nuclear war involving Europe.

## The Medical Consequences of Nuclear War with Special Reference to Europe: Long-Term Problems of Survival

Nothing in this summary can or should be taken to imply any measure of reassurance or that there would necessarily be any realistic possibilities for re-establishing the provision of health care.

The main long-term problems would probably be:

1. Infection and communicable disease. The incidence and severity of these diseases would be exacerbated by the synergistic effects of low levels of immunity, lack of antibiotics, malnutrition, and other factors.
2. Haematological diseases including pancytopenia, multiple myeloma and leukaemia. The latter would probably occur at up to 10 times its normal incidence, at least. Other non-communicable diseases would include severe physical handicap, some congenital deformities and malnutrition.
3. There would be an increased incidence of many solid tumours – for example, lung cancer.
4. There would be widespread psychological and psychiatric disturbances. These would, in some cases, lead to violence, often on a large scale.
5. Health care provision would initially be concerned mainly with infectious diseases, but less effort would be devoted to it than to the difficulties of obtaining food, drinkable water and shelter. Planning or attempting to identify priorities in the longer term is pointless.

## The Medical Consequences of Nuclear War with Special Reference to Europe: Unquantified Effects on the Biosphere

The many simultaneous effects of a large exchange of nuclear weapons cannot be calculated with sufficient precision to rule out the occurrence of major changes in the biosphere that could endanger the human species. Among the effects already discovered (some of which have become known quite fortuitously), the possible depletion of the protective ozone layer in the upper atmosphere appears to be the most serious and at the same time the most difficult to quantify.

The injection of vast quantities of oxides of nitrogen into the lower stratosphere and the consequent depletion of ozone would permit dangerous levels of ultra-violet radiation (especially the so-called UV-B portion) to reach the earth. This radiation would kill or variously injure humans, animals, plants, and micro-organisms and could thereby severely unbalance or otherwise disrupt agricultural and natural ecosystems, both terrestrial and oceanic. The effects could be devastating.

In addition to the profound immediate and short-term effects of a large nuclear exchange, the best estimates now available support that the delayed global fallout would in time cause several million fatal cancers and perhaps one-third that number of genetic defects amongst the survivors.

With a large nuclear exchange, the climatic effects brought about by the vast amounts of dust injected into the lower stratosphere by the smoke and smog generated by the wildfires initiated, and by other ways could severely disrupt agriculture on a world-wide basis and contribute to postwar conditions of famine. Ionizing radiation and wildfires would also destroy conifers and other natural vegetation, thereby leading to serious soil damage through erosion and loss of nutrients in solution. These and other factors would exacerbate famines and epidemics in both target and non-target countries, not least the under-developed countries, and could lead to even more fatalities than those brought about by the immediate energy releases.

The several long-term insults to the biosphere would be likely to act synergistically and lead to adverse and perhaps unknown effects far greater than a simple addition would suggest. If a total nuclear war were ever to occur, we cannot exclude the possibility that the many disruptive effects, both known and unknown, on the biosphere could lead ultimately to the extinction of the human species.

Great catastrophes of the past have had long-lasting psychological effects. Historians of Europe have noted that the effects of the Black Death persisted for well over a century; the human outlook on the world was shadowed and darkened by haunting images of death and terror, as shown by art, literature and historical records. A major nuclear war would be a vastly greater catastrophe; moreover, it would be a catastrophe inflicted by mankind upon itself, by instruments it had itself devised. To the survivors, if any, the world of today, with all its horrors and atrocities, would appear in recollection like paradise lost. The emotional attitudes of men and women in the blasted world are hard to conceive; they would surely range from agonizing grief to apathetic despair, with a haunting sense of terrible guilt at the thought that mankind had squandered and destroyed its inheritance.

## The Arms Race and Its Implications for World Health

The nuclear arms race increases the risk of nuclear world war, which is the ultimate threat to world health. World military expenditures are now about $620,000 million per year and are likely to rise for the next few years at a rate unprecedented in peacetime. The costs of the arms race include employment of 40% of the world's research scientists on military projects rather than on pressing social, economic, and health problems. The rapid increase in the military budgets of some Third World countries and the spread of the capability of producing nuclear weapons are other major threats to world security.

A large proportion of the world's population, especially those living in developing countries, have serious, disabling, life-limiting diseases. Medical knowledge and technology now exist which could prevent or cure many of these conditions; they fail to be applied not only because of a lack of political interest but also because of limited financial resources and trained personnel.

Indicators of current world health needs include average infant mortality rates eight times as high and life expectancies approximately half as long in developing countries as those found in developed countries. Daily food intakes in affluent countries average forty to fifty per cent higher than recommended requirements, while those for many of the people of Africa and the Far East average twenty per cent below recommended requirements. An estimated eight hundred million persons are malnourished and hungry and fifty million die yearly from malnutrition. Over two thirds of the populations of underdeveloped countries have unsafe water supplies, and water-related diseases kill about ten million persons yearly.

The costs of many health-promoting programmes are modest compared to the costs of armaments. The provision of safe water for all would cost $30,000 million dollars per year for a decade; adequate food, $4,000 to $8,000 million per year; malaria control, $500 million per year; and immunisation of children, three dollars per child.

There are not sufficient resources to meet these health costs and to support the arms race. While it is a difficult, complex, and slow process to transfer resources from the arms race to social uses, it would be possible given the political will. Amelioration of the world's major health problems would contribute to social and political stability, thereby decreasing the risk of nuclear world war.

## Medical "Planning" in Relation to Nuclear War

Medical planning for nuclear war raises a profound and unprecedented ethical issue for physicians. Our Working Group is unanimous in its opinion that no level of planning can produce acceptable reductions in mortality, morbidity and human anguish. Nevertheless, a responsibility rests with the medical profession to do everything possible to alleviate the suffering of survivors in their devastated environments. The Working Group, therefore, recommends that planning begin with vigorous efforts at prevention of nuclear war. It must be made clear that no plan can make nuclear war acceptable to the medical profession. Indeed, it is our belief that the result of planning will be to clarify the unacceptability of nuclear armaments, thereby augmenting the general resolve to work for the prevention of nuclear war.

Looking to the possibility of nuclear war, many countries have proceeded without adequate consultation with the medical profession. The Working Group feels that this has resulted in unrealistic, often excessively optimistic projections. The need for secrecy has been invoked as the reason for exclusion of the profession. Since open communication is a tradition among medical professionals world-wide, the Working Group sees no justification for secrecy in medical planning.

Participation in planning a medical response to nuclear war is an issue of conscience and ethics among many physicians. They believe that medical preparation for nuclear war will increase its likelihood by strengthening the illusions of protection, survival and recovery. The Working Group believes that no physician should be compelled to participate.

Education about nuclear war should proceed jointly with the various health care professionals and public officials. It should address the entire spectrum of scenarios, from minimal to global, although limited nuclear war is very unlikely. The role of the physician in this process is to ensure that everyone has a complete understanding of the health consequences of a nuclear attack and the essential limitations of medical care in responding to these consequences. This involves an educational responsibility to practitioners, medical students and the general public. Medical schools should be encouraged to sponsor instruction in the medical consequences of nuclear war and the logistic problems inherent in medical responses to unprecedented numbers of casualties. IPPNW should promote the production of resource materials for educational institutions and medical planners.

Such educational effort will emphasise the primary need to prevent nuclear war. To consider the immediate post-attack period and the long-term consequences can have a preventive effect, particularly if it is done on the local level where the impact of nuclear bombardment can be made conceivable and personal.

Nuclear war will produce an incurable disease. We believe that prevention is the only acceptable course.

## The Role and Effectiveness of Civil Defence in Nuclear War

Civil defence concepts for a nuclear war were reviewed from a medical and psychological perspective and three basic approaches identified: evacuation, shelters in areas thought to be targeted, and shelters in areas where fallout is presumed to be the primary problem. Our analysis disclosed that these concepts are based on a number of assumptions that do not withstand rigorous scrutiny. The assumptions include: Adequate warning time, an error-free central authority, a knowledgeable and compliant population, a near-perfect transportation system, no retargeting, tolerable shelter conditions, functioning monitoring and communications systems, and psychological stability.

We concluded that the feasibility and effectiveness of civil defence measures in the face of all-out nuclear war are in serious doubt, even when evaluated in the context in which their advocates argue for them.

In addition, civil defence when examined in the light of long-term effects can do nothing to mitigate the spread of disease and epidemics; the pervasive radiation effects; the potential for widespread famine; the breakdown of individual will and cooperative effort; the destruction of health care, social, and economic systems; and the devastation of the environment.

If these serious objections leave any hope of marginal effectiveness of civil defence, that slim hope must be weighed against the negative consequences of planning and implementing such programmes. As physicians and scientists, we hold that exaggeration of the value of civil defence may delude the public into thinking that nuclear war is survivable and may encourage some governments to plan on that basis. The belief that a nation possessing nuclear weapons has an effective civil defense programme could be seen as provocative to its adversary and is consequently destabilising. Efforts expended on civil defence direct resources away from necessary social programmes and may divert attention from the most important way of protecting people and enhancing national security: preventing nuclear war.

We conclude that there can be no effective civil defence against nuclear war.



## Psychological Problems of Human Fallibility in Military-Political Organisations

Although military and political organisations usually function reliably, serious human and technical errors have occurred. Because of the potential catastrophic effects of error, every effort should be made to identify and reduce sources of risk.

Official sources have tended to underestimate risk. Error may occur at any level in the organisational system. As physicians we would like to emphasise the medical and psychological factors contributing to failure.

With respect to individuals, we should mention boredom and isolation at lower echelons and fatigue, stress, and illness at higher levels. Despite prior screening, the use of alcohol and drugs as well as occasional extreme antisocial behaviour and psychosis occur among personnel with access to or control of nuclear weapons.

In groups, over-cohesiveness and over-compliance tend to reduce rational behaviour and decision-making. High level military-political group decision-making may be impaired by a reluctance of subordinates to question or challenge the majority or leader of the group.

*Recommendations:*

1. The best solution to the problem of human fallibility in nuclear forces is to stop the production and reduce the arsenal of nuclear weapons because the fewer warheads, the lower the probability of catastrophe.
2. Wide-spread education about the dangers of human fallibility in nuclear forces, particularly about the stresses that affect individuals and the processes which lead to unreliable group decisions.
3. More rigorous control of drug and alcohol use among nuclear personnel.
4. Removal of personnel from nuclear duty when any question of impaired individual functioning occurs and reduction of factors which contribute to such impairment.
5. Guidelines from the World Health Organization for health surveys and medical/social support for nuclear personnel.
6. The environment for nuclear personnel must include the following elements to promote psychological stability and effective adaptation to the extraordinary responsibility they bear: an increased sense of personal, moral responsibility for their actions and access to education about the full implications of what they might do.

## Psychological Mechanisms of Denial and Stereotyping of Adversaries: Their Role in the Acceptance of Nuclear Weapons

Last year's "Proceedings" looked at some of the psychological mechanisms that people use to protect themselves from confronting the horror of nuclear war – avoidance, denial, and dehumanisation. This year the emphasis was on the process of change, resistance and ways of overcoming it.

**Resistance**
When faced with the facts about nuclear weapons and war, there are at least four factors which prevent people from changing:

1. *Psychic numbing.* The scale of nuclear destruction is so vast as to be unimaginable. The facts are acknowledged, but their emotional accompaniment is not – this is protective in the short term; in the long-term it is maladaptive.

2. *Hopelessness.* Alternatively the anxiety created is so great that it causes hopelessness, apathy and despair.

3. *Stereotyping.* The enemy is seen in a distorted and degraded way. Each is a mirror image of the other.

4. *Illusions of deterrence.* Archaic thinking leads us to seek a sense of security through weapons that are unusable and endangering.

**Change**
There is a complex process involved when an individual becomes aware of post-nuclear reality. There are several aspects to this:

1. Facts may be looked at in a new way. A new perspective on the arms race may follow.
   Mutual fascination and hatred between enemies create bonds of mutual dependence. In this sense the nuclear arms race may be seen as comparable to an addiction or perversion. It can then be realised that "we" and "the enemy" share a common danger and that therefore "we" and "they" should try to contribute to each other's security rather than seeking to undermine it. The real enemy has become nuclear weapons themselves.
2. This realisation and the ensuing change of *self-image* may create initial feelings of cultural isolation from peers and colleagues.
3. Awareness of inconsistency leads one to a sense of *absurdity*. The misuse of language plays an important part in this, e.g. nuclear "wars" cannot be "fought" or "won".
4. Once a new *frame of reference* is reached, there may be an emotional release and a new sense of power and shared purpose. The *moral force* of medical opposition to nuclear weapons can be of great significance.

**Activity**
is an antidote to the anxiety which a new frame of reference also creates. As the youth movement has shown, people need positive courses of action and protest.

**Conclusion**
Overcoming stereotyping was seen as a central focus both for research and East-West collaboration.

The international physicians' movement against the threat of nuclear weapons has seen enormous growth in the year since the First Congress at Airlie, Virginia. Physicians from the 31 countries represented at the Second Congress identified established groups representing a total active membership of more than 30,000 physicians around the world.

Established groups exist in the following countries: Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, Czechoslovakia, Denmark, the Federal Republic of Germany, Finland, Hungary, Ireland, Japan, the Netherlands, New Zealand, Poland, Portugal, Romania, Sweden, Switzerland, the United Kingdom, the U.S.S.R. and the U.S.A. In addition, new groups are regularly requesting affiliation with International Physicians for the Prevention of Nuclear War and great numbers of physicians are working individually on the issue around the world.

Directions for future growth for both the international organisation and the national groups are reported in the following two working group summaries.

## The Role of Physicians and Their National Organisations in the Prevention of Nuclear War

Twelve national groups (in 10 countries) were represented. These groups are in various stages of organisation and size of membership. The Working Group believes that national campaigns should emphasise in their presentations the medical and psychological effects of nuclear war. Publications in the scientific and medical press and presentations to colleagues at all levels were endorsed, as were the world-wide production of a pamphlet for physicians' offices, appearances on local media programmes, and the implementation of articles for the lay press. Speakers' training programmes should be developed. Activism should be encouraged as a means of alleviating despair, which may result from mere exposure to extremely frightening materials without the presentation of positive options.

International Physicians for the Prevention of Nuclear War (IPPNW) should support "freeze" and other campaigns for disarmament and cooperate with other professional groups whose goals are prevention of nuclear war. Officials at every level of government, especially boards of health and city councils, should be informed of the medical consequences of nuclear war. Medical education programmes for graduates, undergraduates, and other health workers, such as nurses, are strongly encouraged, as is East-West exchange of medical students and physicians. Relationships with existing peace movements vary from cooperation to affiliation.

IPPNW is envisioned as a federation of, and resource for, national organisations. It is recommended that an international IPPNW faculty present symposia with widespread (possibly interactive satellite) TV coverage on the medical consequences of nuclear war; that IPPNW coordinate specific studies, such as the effect of the arms race on children's mental health; seek expert advisory status with the UN and WHO, as well as other established international bodies; encourage the adoption of resolutions on the prevention of nuclear war by national and international medical and specialist societies, scientific unions, WMA and CIOMS; and that IPPNW seek a role as "process facilitators" at international negotiating tables (e.g. Geneva).

## The Role of International Physicians in the Prevention of Nuclear War

The task of Working Group 11 was to consider the optimal structure for International Physicians for the Prevention of Nuclear War (IPPNW) in this period of expansion of the worldwide physicians' movement for prevention of nuclear war. The group reviewed the history of IPPNW which began with the exchange of letters between Dr. Bernard Lown and Dr. Eugene Chazov in October 1979. IPPNW was incorporated on June 6, 1980, and held its First World Congress in Airlie, Virginia on March 19, 1981. The most important achievement of IPPNW has been the establishment of worldwide medical cooperation for the prevention of nuclear war.

The thirty-five members of Working Groups 10 and 11 agreed that the structure of IPPNW must be expanded to reflect the interests of the developing national movements. The existing Board of Trustees should be enlarged by the addition of representatives of physicians' groups from the United States, the USSR, Western Europe, Eastern Europe and other regions. The enlarged group will constitute an *Interim Executive Committee* which will direct the progress of IPPNW until the Third Congress. Conditions for affiliation of national organisations to IPPNW will be defined.

The Committee or a designated drafting sub-committee will draft a proposal for the mature organisation. The following guidelines were suggested for the draft:

1. The members of IPPNW should be national and regional physicians' organisations working for the prevention of nuclear war. There should be an International Council composed of equal numbers of representatives of each national or regional group.
2. This Council will elect Co-Presidents from the East and West, three Vice-Presidents, one each from the East and West, and one from the Southern Hemisphere, a Secretary, a Treasurer and an Executive Committee comprised of physicians from different regions of the world. Partial financial support for the organisation will be provided by an annual fee paid to IPPNW by each affiliated organisation on the basis of the size of its membership.
3. In its work, the drafting committee will pay particular attention to the importance of including expertise in organisation of grass-roots movements of physicians.
4. When a suitable draft is available, it will be mailed for comments to each individual attending the Second Congress.
5. It is anticipated that the planned organisation will preserve the momentum of the movement and accommodate the expected worldwide growth of national organisations of physicians working for the prevention of nuclear war.

## Medical Student Proposal to Second Congress

**(Endorsed by Working Groups 10 and 11)**

We students from the U.K., U.S.A. and F.R.G. working at this Second Congress of IPPNW, are honoured to be taking part in this important event in the prevention of nuclear war. The spirit and commitment of this conference are an inspiration to us.

Toward furthering the goals of this growing movement, we believe that we, as medical students, have significant contributions to make in both the short and the long term.

Most evident is the long-term contribution we can make as future physicians by continuing the efforts of the medical profession for the prevention of nuclear war.

However, far more important are the immediate contributions we can offer to change the present critical world situation. We bring energy and commitment to these current needs. By working and studying at academic centres, we represent an important resource for the further dissemination of information about the health aspects of nuclear war. Finally, as young people, we are moved to speak out with a sense of urgency and concern for the future of our and coming generations.

Therefore, we make the following recommendations to International Physicians for the Prevention of Nuclear War:

1. Our foremost commitment as students is to work actively at the local and national level for the prevention of nuclear war, in close cooperation with physicians and other health professionals. We urge all IPPNW delegates to accept responsibility for assisting medical students in these efforts in their home countries.
2. In order to foster the development of strong local and national groups, it is important to have international communication among medical students. A regular exchange of information, ideas, and experiences would not only offer encouragement and increased effectiveness to our local efforts, but also contribute greatly to the cross-cultural understanding of one another that is essential to the success of this movement. To this end, we ask that IPPNW delegates carry a written message from us to students in their home countries, which will provide specific means for further international communication among medical students dedicated to the prevention of nuclear war.
3. Finally, we urge IPPNW to give official recognition of student participation at the next International Congress. Specifically, we recommend that a new working group be established, comprised of both students and physicians, to address the role of medical students and medical education in the prevention of nuclear war.

We thank you for your example and support, and we look foward to adding our efforts to the international physicians' movement for the prevention of nuclear war.

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Cambridge, England
April 1982

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President of the Zoological Society of London
Former Chief Scientific Adviser to the Government of the United Kingdom

## Observers at the Second Congress of International Physicians for the Prevention of Nuclear War

Cambridge, England
April 1982

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Editor, Journal of the Royal College of General Practitioners

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Director, Research Committee, World Health Organisation

**Prof. Gunnar Biorck** (Sweden)
Professor of Medicine, Karolinska Institute, Stockholm

**Mr. Pal Csillig** (Hungary)
United Nations Centre for Disarmament

**Dr. Richard Chasin** (USA)
Co-Director, Family Institute of Cambridge
Assistant Clinical Professor of Psychiatry, Harvard Medical School
Adjunct Clinical Professor of Psychiatry, Boston University School of Medicine

**Brother Austin David** (USA)
Research Director, The Pope John Paul II Center of Prayer and Study for Peace

**Dr. Timothy Hayes** (USA)
Physicians for Social Responsibility, L.A.

**Dr. Howard Hiatt** (USA)
Dean, Harvard School of Public Health

**Ms. Penny Janeway** (USA)
Member of the Centre for the Analysis of Health Practices, Harvard School of Public Health

**Dr. Peter Joseph** (USA)
Physicians for Social Responsibility, San Francisco Bay Area

**Dr. Ruth Porter** (UK)
Deputy Director, The Ciba Foundation

**Dr. M.J. Prophet** (UK)
Department of Health and Social Security

**Dr. Hilliard Roderick** (UK)
University of Sussex Medical Research Centre

**Dr. Remi Russbach** (Switzerland)
International Committee of the Red Cross

**Dr. Risto Santti** (Finland)
Chairman, Medical Research Council of the Academy of Finland

**Mr. Robert W. Scrivner** (USA)
Director, Rockefeller Family Fund

**Mr. Leon C. Shelley** (Canada)
Chariman, Consumer Health Organisation of Canada

**Sir John Stallworthy** (UK)
President Royal Society of Medicine

**Sir Michael Stoker** (UK)
President, Clare Hall, Cambridge University